

## **ABSTRACTS:**

### **Department of City and Regional Planning University of California at Berkeley**

#### **Ph.D. Dissertations**

##### *Standards of Development*

Raphaël Fischler, 1993

Traditional zoning standards for the regulation of urban development are quantitative thresholds that specify certain physical features of buildings and sites and that are differentiated according to land-use and housing type. The dissertation is an inquiry into the origins of this mode of public control in the United States, specifically with respect to residential development. On one hand, it explains why a differentiated set of regulations was adopted and why these regulations concerned particular physical features. In other words, it analyzes what made the regulation of housing types, of courts and yards, of lot coverage, etc. important to experts and officials. On the other hand, it describes what made zoning possible, what practices of analysis and of administration had to exist for these modern development controls to be feasible. The answer to both questions centers around the fact zoning was a point of convergence of two efforts by the bourgeoisie of the nineteenth-century city to control urban space and the urban population.

These two lines of action were suburbanization and environmental reform, especially the reform of the "slum." The exodus from the city center had as goal the creation of residential areas insulated from the dangers of the industrial city. Reform aimed at reducing these dangers—of epidemics, of social unrest—where they originated. Comprehensive zoning was designed in the largest cities of the country but owed its structure and its popularity to the allegiance of dominant classes to the suburb. From its very inception, zoning was exclusionary and based on fiscal considerations: tax-payers had to be kept within city limits; to do so, the city had to secure for them suburban or suburban-like residential areas that were protected from social and material nuisances. The creation of homogeneous residential neighborhoods by large-scale developers provided a first precedent for zoning. It made clear that a rigid classification of land-uses and housing types was needed to insure stability.

With respect to the specific machinery of regulation—the setting of standards and their enforcement—a second precedent is most important. This precedent, tenement reform, represents the urban dimension of zoning. Rather than dominant spatial forms, dominant social norms

of the good society and of good government were central here. Health and safety and general welfare were the goals; the formulation of scientific standards and their application by officers with little discretionary power were the tools. These ends and means became those of the inventors of zoning, who used them to translate their agenda of socio-spatial segregation into scientific and administrative terms. The reform of tenements was joined to the socio-spatial organization of the city; this enabled government to work at the same time to increase the personal efficiency of worker and the collective efficiency of the city.

The dissertation describes how planning and housing experts made the complex problems of the industrial city amenable to public intervention by categorizing urban phenomena and quantifying them. In so doing, it shows that the invention of zoning rested on a long process of problem-definition, on the translation of social and political issues into technical problems. The specific way in which this translation occurred is emblematic of a new political rationality, in which the general welfare of the population is an object of government concern and the maintenance of the population's standard of living the basis of its legitimacy. The formulation of zoning standards was part of a widespread movement of standardization in the first decades of the century. This movement rested on the belief that experts could rationally analyze the needs of individuals and of society and that the satisfaction of the former were a means to meet the latter. Zoning codes participated in this general movement by which people became subjects of need rather than subjects of law.

By focusing on the practical problems that the inventors of zoning were trying to solve and on the practical solutions that they designed, the dissertation sheds light at the same time on the convergence of description and prescription in professional work, on the social and political interests at stake in traditional development controls, on the social and professional norms and the urban forms that were embodied in land-use and housing legislation, and on the constitution of modern subjects of the Welfare State.

*Transnational Networks of Taiwanese Small Business and Chinese Local Governments: A New Pattern of Foreign Direct Investment*

You-tien Hsing, 1993

My research concerns the processes and territorial consequences of overseas direct investment funded and organized by Asian newly industrializing economies in other recently industrializing regions. I look at the restructuring of Taiwan's export fashion shoe industry and their strategies of overseas investment in southern China. I also examine China's decentralizing command economy by focusing on the direct

involvement of Chinese local authorities in the Taiwanese-invested projects.

I argue that Taiwanese manufacturing investment in southern China represents a new pattern of foreign direct investment in the rapidly industrializing regions. The new pattern of foreign direct investment is characterized by the investors who are not vertically integrated giant transnational corporations. Instead, they are mostly small- and medium-sized, independent manufacturing firms. In addition, in contrast to the common pattern in which the mechanism of foreign growth investment is based on the interaction between transnational corporations and the national government, the new pattern of investment is shaped by small investors negotiating with low-level local government in the capital receiving regions.

The effectiveness of the investment is achieved under two major favorable conditions, namely, the economic autonomy of local governments and the cultural affinity between overseas investors and local agents. The investors also maintain and enhance their flexibility in production and marketing on the basis of a network of firms rather than individual firms. The networks are effective in providing access to the world market and technologies on the one hand, and a cultural and political understanding of local authorities on the other.

Such local government-oriented investment projects have facilitated a more decentralized process of industrialization in southern China. Most of all, overseas investors provide an alternative source of capital and know-how for local governments to take more initiative in regional development. It has also strengthened the bargaining power of local governments against the national government, which might not have been expected by the latter at the outset of the economic reform.

Theoretically, this research has several major implications. First, it is concerned with the question of restructuring of production networks across regional boundaries; second, this research brings cultural and institutional aspects back into the analysis of transnational production networks; last, it links the global division of labor with specific local production processes based on cultural and institutional mechanisms.

### *Developmental Characteristics and Spatial Formations in the Commercialization of Knowledge Base System Shells, 1975-1991.*

Rebecca Elizabeth Skinner, 1993

The dissertation narrates the history of knowledge base system shell software (KBS) in the context of several arguments in economic geography, political economy, and the history of technology. The research represents a case study of Stanford University in Palo Alto, California, and its environs (Silicon Valley), one of several major regions producing KBS, with reference to Carnegie-Mellon University in Pittsburgh,

Pennsylvania and vicinity and to MIT. The author closely traces technological development in the rule- and frame-based knowledge base system shells, an intermediate capital good for producing end-user software applications, from early research endeavors in the mid-1970s to their present state of coalescing commercialization. The research entailed a close reading of the technical and trade literature, data gathered through interviews, conferences, and trade shows. Spatial formations of companies producing KBS shells, their relations with research institutions and universities, and the location of specific innovations, are scrutinized.

The author found that the "invisible university," or "intermediate" stratum of para-corporate research institutions and informal and professional circles that develop near commercial technologies, is of great significance to commercial realization in innovative environments. The innovative region's technological externalities, or "innovative network," especially in the Stanford region, appears to be a principal crucible for the development of a dominant design or exemplar, or "architectural" (market-oriented) adaptations of "revolutionary" (scientific) technological innovations to commercial usage. Moreover, distinct technological trajectories and patterns in scientific technology and in commercialization are salient in the two leading regions for commercial KBS. Forms of innovation are themselves spatially sequestered according to neo-Schumpeterian categories similar to those proposed by Abernathy, Clark and Utterback (1985). The latter trajectories are directly linked to distinct academic and regional institutional cultures, confirming the plasticity of technological development in this instance.

In economic geography, the study asserts the existence of innovative regions or industrial districts in non-manufacturing industries, and closely elucidates the distinct regimes of technological external economies entailed in innovation and commercialization. Addressing current arguments in political economy, the thesis observes development from a production regime of crafts production to flexible specialization in the development of commercial KBS, and also that this incarnation of flexible specialization is especially infused with intellectually formal, "abstract" knowledge. A broad range of intellectual skills, rather than only "tacit" knowledge, pertains in this historically novel permutation of production. The study vindicates the wider application of the concept of flexible specialization, from manufacturing to "soft" forms of production.

The work suggests further forays into both the substantive areas of history of computing and cognitive emulation technologies and social studies of technology, as well as theoretical work regarding regional contexts of technological trajectories, the as-yet-neglected geography of intellectual activity, and directions in technological change.

**Professional Reports, M.C.P.** [partial listing only]

*Infrastructure and Environmental Planning for the Construction of the Pangué Project in Chile*

Cecilia Collados, 1993

In Chile the decision process to invest in infrastructure projects designed to exploit natural resources is done without the participation of the groups that carry the social and environmental burdens derived from them, and without the inclusion of their points of view. The beneficiaries of the project make the decisions based on the benefits and direct costs the project implies, but omit or disregard as non important the costs that they do not have to bear, even if they are well informed about them. These costs, if considered at all, are introduced as restrictions and not as part of a comprehensive evaluation of the project.

This study looks at the decision-making process for the project to construct the Pangué hydroelectric central, in the Bío Bío River in the southern region of Chile, by the National Electricity Company, and its subsidiary Pangué S.A. The project has been approved by the National Energy Commission, and is scheduled to be functioning in 1997.

In Chile hydroelectricity is considered an efficient option to substitute imported petroleum and to increase the supply of electricity needed for the growth of the economy, minimizing air pollution. The construction of the plan requires damming one of southern Chile's most important rivers, creating a lake that will destroy 14 km of riverine environment. The channel downstream of the dam will dry up periodically because interruptions in electricity generation will result in no flow to release from the dam. The construction of the plan will also displace some people, and will disturb the population of the area.

The environmental and social costs of the project will be borne by the population of the region, but these people have not participated in the decision process to build it, they will not benefit economically from it, nor have they been adequately compensated for the environmental and social impacts caused by the transfer of resources from their region to the electricity-consuming regions.

The decision-making process illustrated by this project indicates that a colonial relationship persists between the metropolis and outlying regions in Chile. Power is concentrated in the center and outlying regions must accept exploitation of their resources. Power has been exercised from the center in three ways: by making the basic decisions, by excluding some participants and issues from the discussion, and by trying to influence and shape the needs of the people of the area. By virtue of its financial support for projects such as Pangué, the World Bank has effectively endorsed this power arrangement.

The institutional framework should be changed to allow the participation of the regions on decision processes that compromise the integrity of their territory and culture. Otherwise the regions will be kept only as sources of inputs, and no party will argue for the local sustainability of the project or for its integration to the general development of the area. Basic democratic principles will be highly compromised, the relationship of power continued, and the national patrimony seriously degraded.

*Open Space and Environmental Equity: Designing for a Truly Democratic City*

Stanton I. Jones, 1993

This thesis examines the issues of environmental equity, social justice, and multiculturalism as they pertain to urban open space systems. The premise for this thesis is that inherent inequalities exist in the quality, accessibility, meaningfulness, and usefulness of most urban open space systems found today within the United States. The problem goes far beyond fiscal and managerial issues to elements rooted in the very process by which many of these spaces and places were planned and designed.

As the population of the United States becomes more diverse both culturally and racially, and as the disparity between the "haves" and "have-nots" increases (as illustrated by the most recent census data), the role of open space must move beyond its European roots towards a more holistic role that encompasses a multicultural society, serving to reflect and celebrate the diversity within communities while at the same time helping to provide a measure of hope, meaning, and understanding for the users of the place. The current open space systems of most urbanized areas in the United States offer few, if any, of these traits to low-income citizens, or to people whose ethnicity and/or culture is anything other than European-American. The recent unrest in Los Angeles, for example, illustrates the hopelessness and disconnectedness that many urban residents feel for their immediate environment. The current planning methodology for the rebuilding of the area reinforces the feeling of irrelevance both to the process and to the outcome for many of the area's residents.

Through a review of current and historic literature, and by developing case studies that focus upon the issue of equity from several different perspectives, this thesis builds upon the present-day reality of urban places, moving beyond both the historic precedent and the present-day time frame to hypothesize what the future of urban open space might be, given a change of process and an increased understanding of the people who use our urban open spaces.

*Housing as an Interpretation of Need*

Neema Kudva, 1993

This thesis is the beginning of an effort to understand the formulation of low-income housing policy in the context of developing countries, specifically India. It is a response to our fragmented understanding of the problem of housing. It attempts to understand the formulation and implementation of housing policies by first defining the problem of shelter through creating a framework that explains housing outcomes as a politicized interpretation of the *need* for shelter. It sees housing as a mechanism to resolve the conflicts that arise over these different interpretations given societal power structures, and acted out within the official political system.

Within this framework, housing outcomes are understood to be the result of a series of interactions and debates at different levels—*or* arenas, if conflict is presumed. These levels range from the local to the global, and from social to political and atheoretical groupings, and are coterminous with the administrative decision-making levels in the government—the official political system. They also reflect the struggles and patterns of power and influence within various social groups, classes, the state, and outside (international) forces. By applying these levels and their interactions to the analysis of housing outcomes, the framework accommodates the local level (which stresses an understanding of the interactions and alliances struck between the politicians, experts, other elite and dominated groups) at one point, while incorporating the interactions at the national and international levels (which stresses expert knowledge informed by theory and paradigms of development).

The framework is based on the assumption that commonalities exist in the housing outcomes in different contexts due to the prevalence of international development paradigms. Embedded within these paradigms are paradigms of shelter which are an important influence on state housing policies throughout the developing world. By providing a framework which includes that expert's discourse, these commonalities can be explained without reducing the importance of particular national and local contexts.

The value of looking at housing as an interpretation of the need for shelter lies in its ability to explain housing outcomes in particular contexts. It allows for the inclusion of international influences at the local and national levels in the form of knowledge production while at the same time acknowledging local power structures and social and political systems. In the case of Ahmedabad, application of the framework can integrate the political analyses of Patel (1988) and Rangan (1987) with the market analyses of the Mehtas (1989) and Wadhva (1989). In addition, it incorporates an understanding of the influence of shelter paradigms in the housing policies and actions of the government and

housing activists in the city. The framework synthesizes these fragmented understandings of housing outcomes in Ahmedabad to provide a more complete definition of the city's housing problem.

The study is limited in that it applies the framework to only one context and uses only secondary data. To test its true value in explaining housing outcomes, the framework must be applied to other contexts. First, in other Indian states where political regimes, power structures, and societal structures are different from that in Gujarat, and secondly in other developing countries.

As in any planning study, the final test of the theoretical framework lies in its usefulness in the design of policies and programs. This thesis is the first of many steps towards defining a framework that redefines "the problem of housing." As such, it does not attempt to bridge the gap between knowledge and action. It simply examines housing outcomes through a synthetic perspective. Ultimately, that examination may contribute in some small way to understanding the problem of housing more clearly, thereby assisting in the formulation of more appropriate policy responses.